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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/726,592 | 12/04/2003 | Mutsuhiko Yoshioka | 246193US0 | 6903 |
| 22850 | 7590 | 08/18/2006 | EXAMINER | |
| C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | CHEN, KIN CHAN | |
| | | ART UNIT | PAPER NUMBER | |
| | | | 1765 | |

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/726,592 | YOSHIOKA ET AL. |
| | Examiner Kin-Chan Chen | Art Unit 1765 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 14 July 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4-14 and 16 is/are pending in the application.
 - 4a) Of the above claim(s) 4-8 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1,9-13 and 16 is/are rejected.
- 7) Claim(s) 14 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 14, 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 12, and 13 are rejected under 35 U.S.C. 102(b) as anticipated over Vincent et al. (US 2002/0142579).

Vincent et al. (US 2002/0142579) teaches forming a polycarbosilane polymer (such as trimethylsilyl cyclopentadiene) on the surface of a substrate, see abstract, and

Table 3. Vincent et al.(US 2002/0142579) teaches that the polycarbosilane polymer may be used for chemical mechanical polishing stopper ([0080].

As to dependent claims 12 and 13, see [0081] and page13, lines 1-2.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9-11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vincent et al.(US 2002/0142579) as evidenced by Roy (US 6,180,976) and Yoon et al. (US 6,121,146).

Vincent et al.(US 2002/0142579) teaches forming a polycarbosilane polymer (such as trimethylsilyl cyclopentadiene) on the surface of a substrate, see abstract, and Table 3. US 2002/0142579 teaches that the polycarbosilane polymer may be used for chemical mechanical polishing stopper ([0080].

Vincent et al.(US 2002/0142579) teaches the substrate may be semiconductor substrate, therefore, making commonly used multiple layers semiconductor substrate (comprising such as insulating layers on the wafer) obvious in the art of semiconductor

device fabrication, see Roy (US 6,180,976; col. 1, lines 42-46) as evidence for the common description of the multi-layer semiconductor substrate. Furthermore, it is common in the art of semiconductor device fabrication that the insulating layer may be CVD-SiO₂. See Yoon et al. (US 6,121,146; col. 4, lines 35-40).

Dependant claims 10 and 11 differ from the prior art by specifying various sizes and dimensions (thickness of the film). Because same are merely a matter of choices of design depending on the product requirements, it would be obvious to one skilled in the art to use various dimensions and a plurality of for fabricating a semiconductor device in order to accommodate the specific product design and meet the product requirement.

Changes in size, dimension, shape, proportion, or mere duplication of parts, are not sufficient to patentably distinguish over the prior art, unless the recited changes are critical, i.e., they produce a new and unexpected result which is different in kind and not merely in degree from the result of the prior art. In re Rinehart, 531 F.2d 1048, 189 USPQ 143. See also In re Dailey, 357 F.2d 669, 149 USPQ 47. See also In re Harza, 274 F.2d 669, 124 USPQ 378; MPEP 2144.04 IV-VI.

Allowable Subject Matter

6. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claim 1, 9-13, and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roy (US 6,180,976; col. 1, lines 42-46) shows that the multi-layer semiconductor substrate may comprise various insulating, conducting, and semi-conducting layers.

Yoon et al. (US 6,121,146; col. 4, lines 35-40) teach that the insulating layer may be CVD-SiO₂.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kin-Chan Chen whose telephone number is (571) 272-1461. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 17, 2006



Kin-Chan Chen
Primary Examiner
Art Unit 1765